Section I: Introduction

What is the Missouri Continuing Planning Process?

The federal Water Pollution Control Act, as amended by the federal Clean Water Act of 1977 (the Act), requires the states to maintain under Section 303, a Continuing Planning Process (CPP) plan. This may be described as an umbrella document that coordinates all aspects of water pollution control in an effort to assure the states maintain progress toward protecting and preserving water quality. Planning changes have occurred since the Missouri Clean Water Commission and the U.S. Environmental Protection Agency (EPS) approved the 1984 CPP. This CPP describes processes used to manage water quality programs and the relationships between these activities by addressing each of the minimum nine federal CPP elements required under the Clean Water Act. The state CPP is a description of the state's water quality management and planning activities. Several web sites are also presented throughout the CPP.

The Continuing Planning Process Elements

Nine Required Elements

The following nine processes are the minimum required of states under the Clean Water Act in Section 303 (e), 40 CFR 130.5. See references in this section, page 16. Section II of the CPP for Water Quality Management is discussed within the context of these nine elements.

1. The process for developing effluent limitations and schedules of compliance as required by Sections 301(b)(1), (2), 306 and 307 of the Clean Water Act and as required in applicable Water Quality Standards

2. The process for incorporating elements of any applicable area-wide waste treatment plans under Section 208 and applicable basin plans under Section 209 of the Clean Water Act

3. The process for developing Total Maximum Daily Loads (TMDLs) and individual water-quality-based effluent limitations for pollutants as required in Section 303(d) of the Act and Part 130.7 of EPA regulations

4. The process for updating and maintaining water quality management plans, including schedules for revision

5. The process for ensuring adequate authority for intergovernmental cooperation in the implementation of the state water quality management program

6. The process for establishing and assuring adequate implementation of new or revised Water Quality Standards, including schedules of compliance under Section 303(c)

7. The process for assuring adequate controls over the disposition of all residual waste from any water treatment processing

8. The process for developing an inventory and priority ranking of needs for the construction of waste treatment works required to meet the applicable requirements of Sections 301 and 302 of the Clean Water Act

9. The process for determining the priority of permit issuance

Continuing Planning Process Summary

Section 303(e) of the federal Clean Water Act requires each state to have and maintain a Continuing Planning Process (CPP). The Missouri CPP was approved by Region 7 of the U.S. Environmental Protection Agency (EPA) in 1973 and was last updated in 1984. The Missouri CPP 2001 is a snapshot of current operating activities. Revisions to the CPP will address how the Water Pollution Control Program does business and allow for opportunities to plan process changes that accommodate what the program would like to do in the future. At least two of the nine elements of the CPP will be revised or updated annually and posted to the department's web site to document changes in the program. A more comprehensive revision is planned for 2005.

The CPP addresses the nine federally required elements under section 303 of the Clean Water Act with information that describes and supports the continuous planning process. The CPP is not intended to be a strategy, a program plan or primer. The nine elements are the minimum requirements .

The federal CPP requirements within this plan are linked to descriptions of water quality control processes of the Water Pollution Control Program together with the appropriate reference documents and other relevant sources of information. The CPP document is public noticed for public comment and submitted to the Clean Water Commission for comment and approval and to EPA Region 7 for their review, ensuring that the approved planning process remains consistent with the Clean Water Act.

Continuing Planning Process Development

The Water Pollution Control Program planning, permits, enforcement and financial sections are asked to contribute updates for the nine minimum federal CPP elements plus any other information the department determines that fairly describes the CPP effort of the water program. The continuing planning process coordinator interviews staff and reviews reference documents and internal documents of the department that describe the activities of the Water Pollution Control Program.

Key staff in the Water Pollution Control Program assist the planning coordinator by preparing information or locating existing support and guidance documents relevant to the section's work. Relevant legal authority, department and EPA reference documents, as well as other sources of information, are listed at the end of each element to provide further information on the program's operational activities or processes. See the Continuing Planning Process presentation on the departments web site at *http://www.dnr.state.mo.us/wpscpd/homewpcp/cpp_main.htm* .

Description of Missouri's Water Quality Management Process

Under the Missouri Clean Water Law, Chapter 644 RSMo (Revised Statutes Missouri), it is the policy of the state to conserve the water of the state and to protect and improve the quality of the water for public use and for domestic use. This includes agricultural, industrial, recreational and other uses as well as the propagation of wildlife, fish and aquatic life.

The Missouri Clean Water Commission regulations and the Missouri Department of Natural Resources' Water Pollution Control Program must use the powers and duties granted under the state's water law. The Commission is a six-member citizen's board. Each member is appointed by the Governor and confirmed by the Senate. Department staff are housed within the Water Pollution Control Program, the Geological Survey and Resource Assessment Division (previously the Division of Geology and Land Survey), Technical Assistance, the Environmental Services Program and the six Regional Offices. The Water Quality Standards (WQS), as approved by the Clean Water Commission, define the expected quality of Missouri's streams, rivers, lakes and wetlands. Water quality data comes from monitoring and assessment by the Water Protection and Soil Conservation Division (previously the Division of Environmental Quality) staff, other agencies, special studies and volunteer efforts. The Environmental Services Program assists with the collection and analysis of water and biological samples. Monitoring highlights needed changes in the Water Quality Standards as well as needed management activities. The results of the monitoring are updated every two years and published in the Missouri Water Quality Report, which is submitted to the U.S. Environmental Protection Agency (EPA). The EPA compiles all states reports into a report to Congress. This report is commonly referred to as the 305(b) report according to the requirements of section 305(b) of the Clean Water Act. The development of the standards and monitoring and assessment of water bodies is required under the federal Clean Water Act (commonly referred to as the Clean Water Act), amended as recently as 1992 and the Missouri Clean Water Law, Chapter 644 RSMo.

Waters that fail to meet standards are listed on the state's 303(d) List (required at this point under Section 303(d) of the Clean Water Act to be amended every two years) are targeted for studies and corrective action. Studies beginning in 1999, which ultimately result in an allocation of loading to the various sources in the watershed, are called Total Maximum Daily Loads (TMDLs). (Missouri's 1998 Section 303(d) list was approved by the Clean Water Commission and by EPA Region 7). TMDLs and the restoration of our streams and lakes are federal requirements under the Clean Water Act. Remediation of problems caused by nonpoint pollution will require close work with local watershed committees and other local organizations. A large percentage of the 1999 water quality budget expansion was to conduct TMDL studies and coordinate the clean up of impaired waters and restoration of impaired waters.

In addition to Water Quality Standards revisions and TMDL modeling studies, the department's Water Pollution Control Program, in partnership with the Conservation Federation of Missouri and the Missouri Department of Conservation, manages the Stream Team and Volunteer Monitoring Programs. The data collected by trained volunteers identify potential water quality

problems for follow-up studies. The data received from the volunteers is used directly for modeling and assessment.

One of the commission's and the department's responsibilities under state and federal law is to issue both construction and operating permits and other permits such as pretreatment, wastewater collection and other permit-by-rule permits that ultimately limit the discharge of pollutants into waters of the state. Clean water regulations are enforced against those who fail to correct violations.

The department and commission oversee several types of financial assistance provided to protect and preserve water quality. The Clean Water State Revolving Fund Program (CWSRF), authorized under state and federal law, is the largest assistance program. This program provides low-interest loans to public entities for the construction of wastewater treatment plants and collection systems. The federally funded loans available for construction grants under the CWSRF program are generally available to larger communities that are financially able to repay the loan. The Clean Water Commission developed the State 40 Percent Construction Grant Program to provide assistance to those communities with higher credit risks. In addition, grants and loans to small sewer facilities supplement these programs. The Clean Water Commission also oversees grants and loans to urban communities for the construction of storm water facilities.

For nonpoint sources, the Department of Natural Resources coordinates federal funding with Federal Housing Administration grants and loans to smaller competing towns. This process is facilitated through clearinghouse reviews of the U.S. Department of Agriculture's (USDA) funding for nonpoint sources and through Unified Watershed Assessment and Planning.

Missouri's approach to nonpoint source pollution is outlined in the Nonpoint Source Management Plan (NPSMP). A description of this plan is provided in this document. This management plan and its appendices may be downloaded and is broken into six portable document formats (PDFs). This nonpoint source pollution control and prevention plan for water quality is active and effective. The Nonpoint Source Management Plan, having been approved by the Clean Water Commission in 1999, is available at the Department of Natural Resources' web site http://www.dnr.state.mo.us/wpscd/wpcp/wpcnpsmp.htm.

The Missouri Water Quality Report, referred to as the 305(b) report (required under Section 305(b) of the Clean Water Act), has identified nonpoint source pollution as the largest contributor to water quality problems in Missouri. State Revolving Funds in the Water Pollution Control Program are used for both point and nonpoint source water quality improvements. Funding is also available through the department pursuant to Section 319 of the Clean Water Act for Special Area Land Treatment (SALT) and through various state sales tax funding mechanisms as well as a variety of USDA cost-share programs to protect and restore waters impaired by nonpoint sources.

Missouri Water Resources and Land Use

Missouri occupies 69,000 square miles and has a population of about 5.6 million people. Most of the population is concentrated along the border areas on opposite sides of the state in the

Kansas City and St. Louis metropolitan areas. Population as well as industrial and commercial activity in major urban areas has remained relatively stable for the past few decades. Patterns of rural land use have changed greatly in some areas. There has been an increase in residential development around larger cities; recreational development adjoining Lake Taneycomo, Lake of the Ozarks and Table Rock Lake; and in the development of concentrated animal feeding operations in north central and southwestern Missouri.

Missouri has an impressive stream network that includes over 22,000 miles of classified streams (having year-round flow sufficient to maintain aquatic life) and 456 classified lakes, which cover 293,000 surface acres. Three distinct regions exist within the state's boundaries, and the particular geology and land use of each affects water quality. These regions include a prairie region, which is rolling land mostly used for row crop and pasture; the Ozarks, a hilly area that is mostly pasture and forest; and the Bootheel, a flat alluvial plain adjoining the Mississippi River in southeast Missouri, which is used mainly for row crop production.

Missouri's Water Quality Standards (10 CSR 20-7.031) provide the names and locations of all classified streams and lakes. This state regulation defines over 3,600 individual stream and river segments and 456 lakes, lists the beneficial uses assigned to each of these waters and defines the level of water quality necessary to meet these uses.

The remaining waters of the state, such as those in the upper portions of the stream network that do not have permanently flowing or standing water and a number of small lakes, are not listed in the Missouri Water Quality Standards and do not have beneficial uses assigned to them. These unclassified waters are protected by the general criteria in the Water Quality Standards. The general criteria say these waters must be free from such aesthetic problems as demolition debris, trash, tires, odor, discoloration or the presence of objectionable floating or deposited material. The general criteria also say the waters must not be harmful to livestock or aquatic life.

Surface and groundwater in Missouri are quite varied in quantity and quality, corresponding closely to geology and land use.

Prairie Region

Bedrock containing several relatively impermeable shale and clay layers underlies northern and western Missouri, which was originally prairie land but is now used for crop and livestock production. Surface waters are more turbid and are affected by high rates of sediment deposition. Due to soil erosion and stream channelization, the aquatic habitat is poor. Channelization straightens or artificially locates a stream's channel, which can interfere with the water's ability to purify itself of pollutants. Almost 7,300 miles of classified streams are impaired because of these conditions.

Rivers and reservoirs used as drinking water supplies often contain herbicides. A few reservoirs used for public drinking water contain atrazine at concentrations that exceed drinking water standards. Other herbicides found occasionally in drinking water reservoirs are at concentrations below health advisory levels.

Ozark Plateau

The Ozark Plateau, including the Springfield Plateau, is a mostly hilly area. The bedrock consists of limestone, dolomite and sandstone yielding groundwater of excellent quality and adequate in supply for most urban, industrial and other needs. Groundwater contamination risks are moderate to high due to the permeability of the soil and bedrock. Any number of surface activities including agricultural and suburban-urban storm water and wastewater disposal, mining, storm water runoff, lawn care and improper well and individual waste disposal practices all pose threats to surface water and groundwater quality. Overall water quality remains good in large part due to the efforts by all parties to protect the aquifers.

Groundwater is relied on heavily in this part of Missouri. The major groundwater concern is the often rapid and unfiltered transmission of contaminated surface runoff or leachate from some septic tanks, underground storage tanks, landfills, dumps, liquid waste storage ponds, animal production and processing wastes. Waste can enter potable aquifers though fractures or sinkholes. Shallow wells are at risk of contamination.

The Mississippi Embayment, Bootheel Region

Missouri's southeastern corner is a large alluvial plain of the Mississippi River. Originally a vast system of wetlands, it has been drained and almost entirely converted to crop production. Almost all surface waters in the area are drainage ditches. These ditches only partially attain beneficial-use status because aquatic habitat has been destroyed by stream channelization. Channelization creates a homogenous, low-quality aquatic habitat.

Groundwater is abundant. Public water supplies that tap deeper aquifers provide good, high-quality water. Shallow private wells commonly have nitrates and low levels of pesticides. The frequency of exceedence of drinking water standards for nitrates and pesticides in private wells is similar to northern Missouri.

Water Quality Planning

Authority for enforcement of the Missouri Clean Water Law and for state regulations concerning water pollution resides with the Missouri Department of Natural Resources, Water Protection and Soil Conservation Division. Authority for the regulation of pesticides rests with the Missouri Department of Agriculture. The following discussion is intended to provide a baseline for understanding the fundamentals of water quality planning.

Point Source Controls

The number of classified streams, (includes all water bodies with at least minimal numeric criteria for water quality to protect aquatic life and human health), impaired by point source wastewater discharges has generally decreased since 1984, when statewide data on stream quality became available. Point source pollution is pollution that can be traced to a specific site, such as a pipe, ditch or channel. Under the current Clean Water State Revolving Fund program, the state administers a perpetual water pollution control revolving loan fund, providing financial assistance for construction of wastewater treatment facilities. The Missouri Clean Water Commission has revised its regulations to bring concentrated animal feeding operations (CAFOs) into the point source permit program, consistent with federal requirements. Manure

spills and fish kills from CAFOs have been declining due to full implementation of regulations and operator certifications.

Nonpoint Source Controls

Prevention of nonpoint water pollution, such as runoff from farms, cities, mining areas and construction sites is still a voluntary program. Regulations are in place to prevent leakage from underground storage tanks and for the secondary containment of bulk agricultural chemical storage sites. Large sand and gravel operations require a general permit for storm water and smaller operations have been provided with guidelines for best management practices in addition to 404 permit requirements for dredged or filled material. Missouri's nonpoint source management planning discussed in the Continuing Planning Process is explained in Missouri's Nonpoint Source Management Plan and is recommended for those needing additional information about the protection of aquatic resources. This plan was approved by the U.S. Environmental Protection Agency in June 2000 and is found on the Department of Natural Resources Web site, http://www.dnr.state.mo.us/wpscd/wpcp/wpcnpsmp.htm. The nonpoint source management process works with federal, state and local governments, universities, private groups and individual landowners to implement watershed projects that demonstrate nonpoint source control practices and often monitor water quality. Nonpoint source control projects are also eligible for funding under the Clean Water State Revolving Fund.

List of Impaired Waters or the 303(d) List and TMDLs

The 303(d) list is a prioritized list of waters not meeting Water Quality Standards. In these priority waters, point source, technology-based limits are not sufficient to restore and protect water quality. The 303(d) impaired waters list will indicate how listed waters are impaired and the sources of those impairment. The list is developed at least every two years.

A state is required to establish a Total Maximum Daily Load (TMDL) framework for each of its listed waters. In the TMDL process, the state calculates the maximum amount of a pollutant that a listed water can accept and still meet Water Quality Standards and then distributes that amount to the pollutant's sources. Priority on the 303(d) list is given to waters most in need of TMDL development.

The Department's Water Pollution Control Program recommended a draft "303(d)" list in October of 1998 receiving EPA approval of the final version in April of 1999. The department staff evaluates all data and information submissions to determine whether they are applicable and useful for identifying impaired and threatened water bodies as required by the Clean Water Act in Section 303(d). The 303(d) listing process provides a basis for long term planning efforts. The process is neither intended nor appropriate for short-term critical conditions requiring immediate response.

The Clean Water Act currently requires that the 303(d) list be amended every two years. The list is placed on public notice to encourage public participation. The EPA waived the required 2000 303(d) list for all of the states. The department is preparing the 2002 impaired waters 303(d) list for review and comment by the public and the Clean Water Commission. A recent public notice was scheduled for July, 2001.

National Water Quality Inventory: Section 305(b) Report

Section 305(b) of the Clean Water Act requires each state to monitor and assess all of its waters and report this information to Congress every two years. States do not use identical survey methods and criteria to assess water quality. Missouri uses the following four types of water quality measures: 1) designated beneficial uses (ie. fishing and swimming), 2) numeric water quality criteria (i.e. ammonia concentration etc.), 3) narrative water quality criteria (ie. free of substances toxic to humans, aquatic life and wildlife) and 4) anti-degradation statements, (ie. waters are protected from water quality deterioration). Missouri's 305(b) report is based on a comprehensive collection of a state's water quality data. For more information on the 305(b), request an electronic copy of the report at cleanwater@dnr.state.mo.us or go to http://www.epa.gov/OWOW/305(b).

Funding

Programs with dedicated funding sources have worked to decrease water pollution in Missouri. A tax on coal has funded the reclamation of abandoned coal-mined lands nationwide. Fourteen years of such reclamation in Missouri has reduced the number of stream miles polluted by acid mine drainage from about 100 to 42. A state sales tax for soil erosion control started providing funds for watershed-level soil-erosion control programs in 1985. This program, coupled with federal soil conservation programs is reducing soil erosion in Missouri, according to the findings of periodic National Resource Inventories.

References

Informational reports

Missouri Water Quality Report, 2000, Missouri Department of Natural Resources, Water Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, (Prepared pursuant to Section 305(b) of the Clean Water Act and Missouri Clean Water Law, providing a summary of water quality for the Congress and the Public).
Missouri Water Ways, summarizes water quality in the state.

To request general information on water quality, call 1-800-361-4827 for a hard copy of the department's Missouri Water Quality Report or for information on the Missouri Basin Plan(s), providing information on land use, hydrology, stream flow and water quality. The latter report is currently being added to the department's Web site at http://www.dnr.state.mo.us/deq/wpcp/homewpcp.htm.

Additional reference

Missouri Water Resources Law, **A Summary of Missouri Water Laws #51, Missouri State Water Plan Series, Volume VII,** MDNR, Geological Survey and Resource Assessment Division P.O. Box 250, Rolla, Mo 65402-0250, Several reports are available for the public from the Publications Desk of DGLS including Missouri Water Resources Law Annual Reports.

Public Involvement

Any proposed changes in Missouri Water Laws, such as rulemakings for Water Quality Standards, to implement the law are found in monthly publications of the *Missouri Register*. Inquiries and comments to public notices and comments at public hearings may be made by the public in written letters to the department or in oral and written statements made to or before the Clean Water Commission. State policies encourage comments to the Clean Water Commission and to Department of Natural Resources staff. Comments on any permits to be issued are also welcomed. Inquiries and comments to public notices and comments at public hearings may be made by the public in written letters to the department or in oral and written statements made to or before the Clean Water Commission on permit issuance.

Web sites

- The Water Pollution Control Program Web site, http://www.dnr.state.mo.us/deq/wpcp/faqwpc.htm, answers frequently asked questions. There is information on water quality questions, definitions, grants and loans, permits and clean water law questions.

- The Nonpoint Source Management Plan, having been approved by the Clean Water Commission in 1999, is available at the department's Web site at http://www.dnr.state.mo.us/deq/wpcp/wpcnpsmp.htm.

- To access electronic copies of documents on file with the department's Technical Assistance Program (TAP), go to http://www.dnr.state.mo.us/deq/tap/pubs.htm.

- To access Missouri Water Resources go to http://www.dnr.state.mo.us/dgls/wrp/wrphp.htm

- To search the Missouri Revised Statues by keyword, visit http://www.moga.state.mo.us/homestat.htm.

- Missouri Watershed Information Network MOWIN, http://outreach.missouri.edu

- U.S. Environmental Protection Agency (EPA) Region 7, http://www.epa.gov/region07 **Links to EPA federal laws and regulations including the Clean Water Act.**

Additional Web sites are found in the elements discussed and in the reference sections. ***The main CPP site links to the Clean Water Act under Laws and Regulations*** http://www.dnr.state.mo.us/deq/wpcp/wpc_cpp_01.htm.

Reference sections in the elements contain important sources of information including Missouri Clean Water Law regulations and Missouri Department of Natural Resources rules for technical and legal information as well as EPA technical guidance documents.

References

For viewing the department's water pollution control regulations under Missouri Clean Water Law and other Missouri regulations, please access the department Web site at http://www.dnr.state.mo.us/deq/laws.htm or http://www.dnr.state.mo.us/deq/wpcp/wpcpub.htm or http://www.moga.state.mo.us/STATUTES/C644.htm. Program regulations are in Division 20. Download regulations and rules from the Internet or obtain hardcopies of the department's rules from the Secretary of State's Office. For information on technical and guidance documents you may contact the department at (573) 751-1300 or cleanwater@dnr.state.mo.us.

To locate copies of EPA reference documents, contact EPA-NCEPI by calling 1-800-490-9198 or fax (513) 489-8695. EPA documents and Missouri Department of Natural Resource documents can be accessed through the internet. For questions concerning sources of information in this document call the Missouri Department of Natural Resources, Water Protection and Soil Conservation Division (previously the Division of Environmental Quality), Water Pollution Control Program at (573) 751-1300 or 1-800-361-4827.

Notes

The CPP provides for a discussion of planning activities and processes with enough specificity, hopefully, to guide the reader towards references available from the department or its web site, such as guidance documents and memorandums of agreement, or through e-mail at cleanwater@dnr.state.mo.us for more detailed information. Web sites provide immediate access to important documents. Listing these informational sources does not preclude other relevant authorities or documents from being accessed upon request.